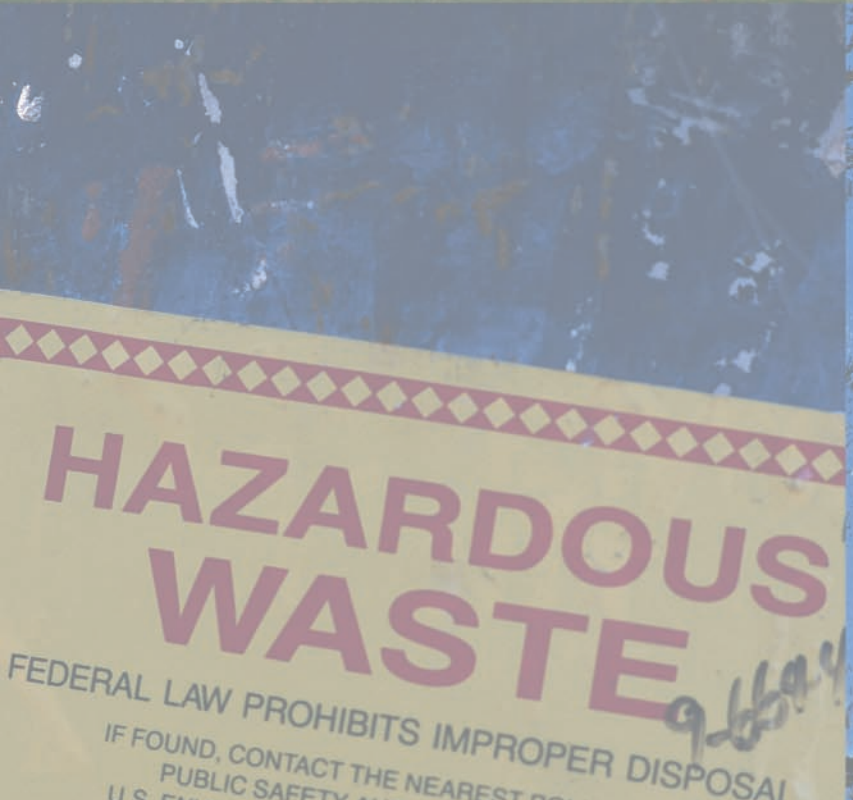
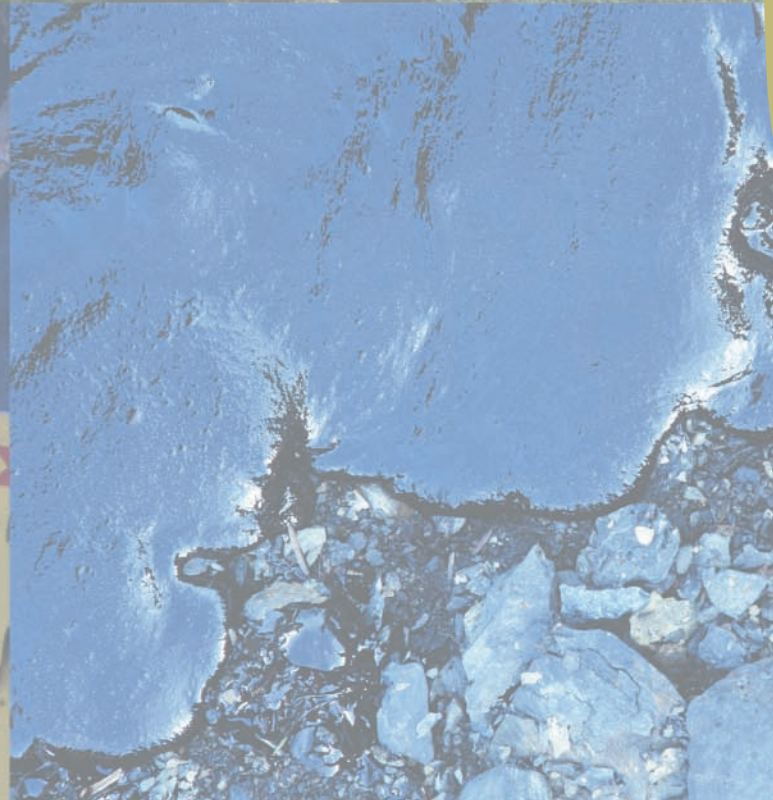




The Environment

Air Quality

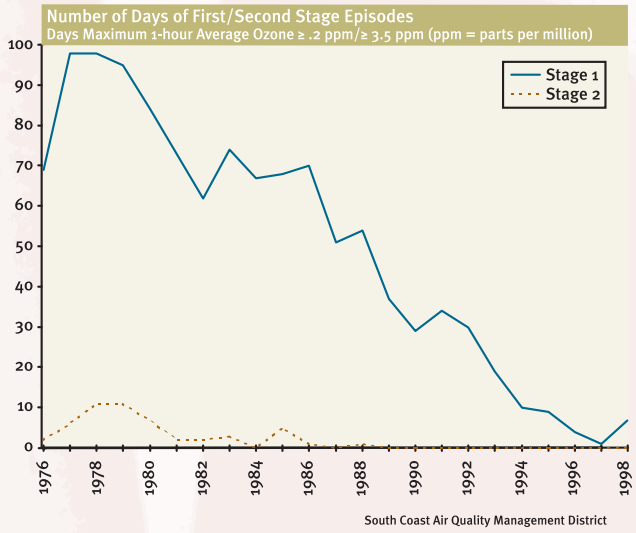
The air in Southern California has been cleaner throughout the 1990s than in previous decades. However, high temperatures and strong atmospheric inversions in 1998 resulted in more smog in the region compared to last year. The number of days of first stage alerts had declined from a high of 98 days in 1978 to 1 day in 1997; however, in 1998 smog reached such high concentrations that there were first stage alerts on 12 days. At first stage alerts, everyone, including healthy adults and children, are warned to avoid vigorous outdoor exercise. The elderly and susceptible persons, especially those with heart or lung problems, are warned to stay indoors.

The South Coast Air Basin is the only region in the state and the nation classified as “extreme” for ozone non-attainment. Ozone is formed when gases from a multitude of sources are trapped near the ground by a strong inversion layer and stagnant air. Sweltering conditions in mid-July triggered severe smog throughout most of the region. The worst day of the year for air quality was July 16, when Stage 1 episodes were recorded for the east San Gabriel Valley; the northwest, central, and eastern San Bernardino Valley; the central San Bernardino Mountains; and the Riverside area. Much of the state experienced poor air quality that week.

Sweeping measures requiring cleaner fuels, vehicles, industrial operations, and consumer products successfully reduced smog even as the region's population grew. The smog-suppressing El Niño weather pattern, and a cool summer in 1997, also contributed to only one first stage alert in 1997. A return to normal weather patterns in 1998 brought more smog to the region. The increased smog is the result of the growth in the economy and the increased number of sport-utility vehicles, which put out more exhaust fumes than cars.

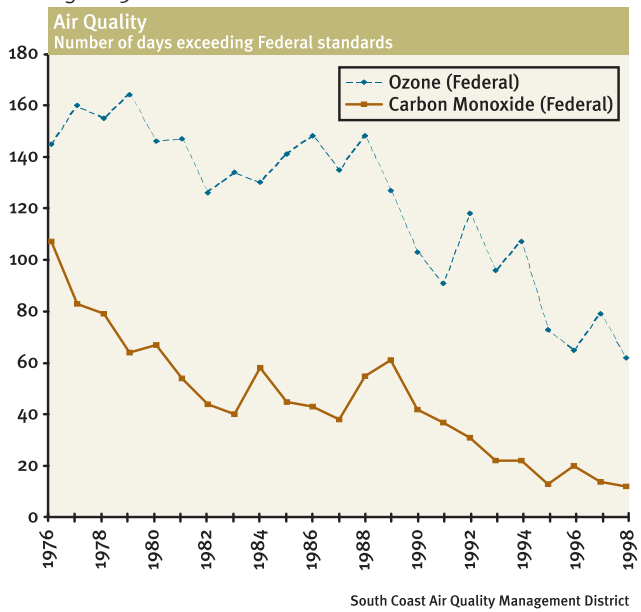
Good air quality is vital for the health of residents, nature, and the economy.

Figure 14



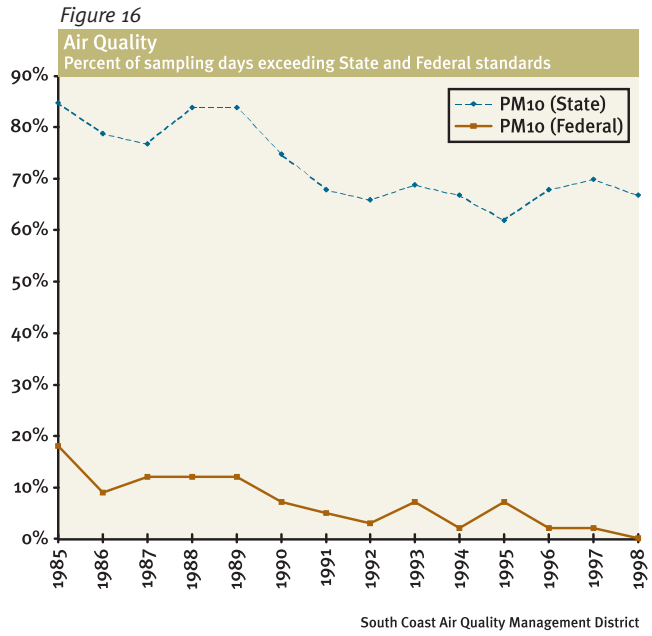
There were no alerts in 1998 in most of Los Angeles, Orange and Ventura counties. The worst smog in the region has shifted east, away from the most populated areas. The worst ozone concentration is now in the towns east of San Bernardino. Nine of the region's 12 alert days in 1998 were in these mountain towns, compared to three alerts in the metropolitan area in the eastern San Gabriel Valley.

Figure 15



There were fewer days in 1998 than in 1997 in which pollutant concentrations for ozone, carbon monoxide, and PM10 exceeded the federal standards in the region. At any one monitoring station, the federal standard for ozone was exceeded on 62 days and the federal standard for carbon monoxide was exceeded on 12 days. The federal standard for PM10 was not exceeded on any day in 1998. The state standard for PM10 was exceeded on 40 days in 1998, 67 percent of the days sampled.

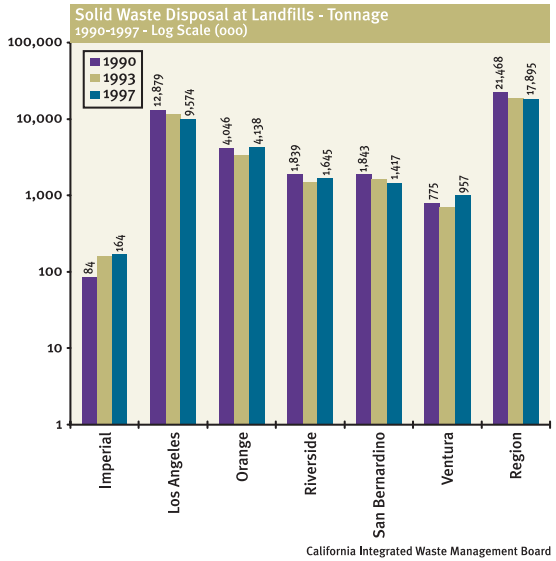
Figure 16



Note: These figures were revised from the 1998 State of the Region to show total number of days at all stations in the SCAG region. The 1998 report included total number of days by individual station.

A recent congressional study found that residents in the Los Angeles area are exposed to hazardous air pollutants at high enough levels that the risk of cancer is 426 times higher than the health standards established by the 1990 Clean Air Act. Nine of the ten toxics analyzed in the study appear to present cancer risks higher than the Clean Air Act goal. The three pollutants that appear to pose the greatest cancer risks are butadiene, formaldehyde, and benzene. Mobile sources, such as cars, trucks, and off-road vehicles, appear to be the most significant sources of these hazardous air pollutants, Unfortunately, as the study points out, there has been little attention devoted to the issue of human exposure to hazardous air pollutants. There is no national monitoring network routinely monitoring air toxic levels.

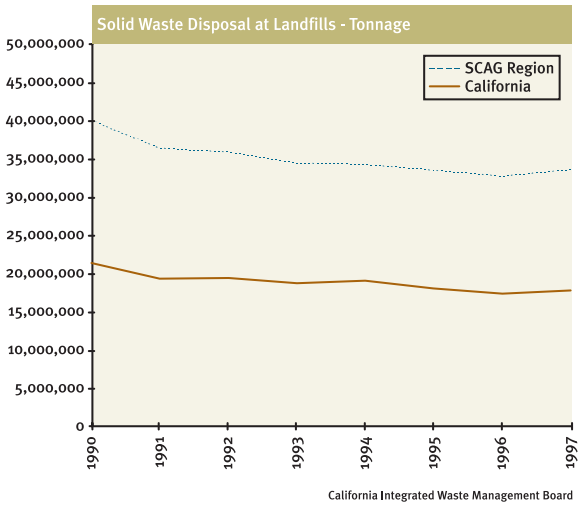
Figure 17



Solid Waste

The amount of solid waste deposited at landfills is important as a simple, measurable indicator of waste generated. A sustainable society recycles or reuses the waste generated as much as possible, minimizing the amount of waste sent to landfills.

Figure 18



According to the Integrated Waste Management Board, California leads the nation in recycling. Since the Act was implemented in 1990, 100 million tons of waste have been kept out of landfills. Communities have used a combination of programs of waste prevention, recycling and composting to reduce the amount of garbage going to landfills. The amount of waste sent to landfills in the region had declined every year since 1990; however, there was a 2.6 percent increase in 1997 from the previous year.

The Integrated Waste Management Act of 1989 requires cities and counties to divert waste from disposal at landfills. The law requires that cities and counties divert 25 percent of all solid waste from landfill disposal by 1995, and 50 percent of all solid waste by January 1 of the year 2000, through source reduction, recycling, and composting activities. Failure to meet the compliance schedule may result in fines to cities or counties of up to $10,000 per day.

Hazardous Waste

Hazardous waste poses a threat to the environment and to public health. Even at very low concentrations, improper disposal and dispersal into the environment can contaminate groundwater and agricultural land. Hazardous wastes are known or suspected to cause increased mortality or serious illness or injury. (Please see map 15 for the hazardous waste sites on the state and federal priority lists.)

Table 13

Jurisdictions Meeting Solid Waste Diversion Rate of 25 Percent by 1995
Reviewed by the California Integrated Waste Management Board as of 12/30/98

County	Total Jurisdictions reviewed by Board	Total Jurisdictions meeting rate	Percent of Jurisdictions reviewed meeting rate
Los Angeles	27	19	70%
Orange	26	24	92%
Riverside	18	18	100%
San Bernardino	9	6	67%
Ventura	8	8	100%
SCAG Region	88	75	85%

Source: California Integrated Waste Management Board
Note: Data for Imperial County was not available.

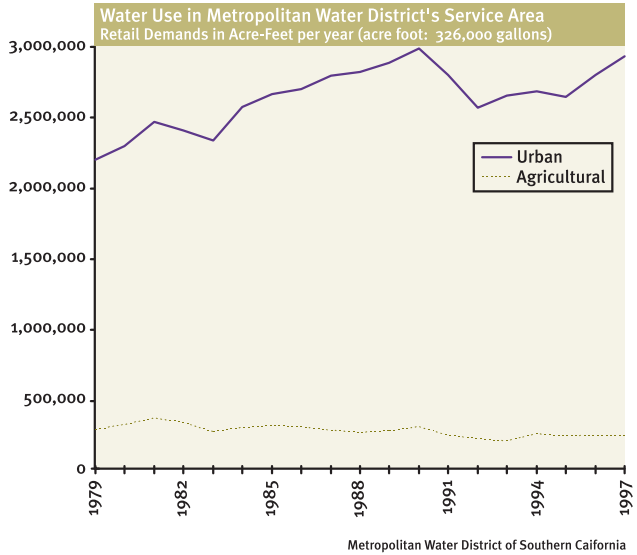
Water Resources

There are three major hydrologic regions in the SCAG area: The South Lahontan, the Colorado River, and the South Coast region. These hydrologic regions combined with California's larger water distribution systems in the Sacramento and Joaquin Delta watersheds, are expected to serve the region's needs into the next century. As growth and urbanization continues in the region, the water resources available will continue to be hard pressed for service needs.

Various wholesale and retail water agencies serve the region. The water agencies serving the region use imported and local sources to meet user demands. Imported water accounts for 74 percent of total water use, local sources of water provide 23 percent of the water supply, and the remaining 3 percent is from reclaimed water.

Maintaining water quality and ensuring reliable water sources are important goals in Southern California.

Figure 19



The Metropolitan Water District of Southern California (MWD) is the largest regional water agency, serving the majority of the region's population (88 percent) and approximately one-quarter of the area served by all water agencies. (The MWD serves all counties in the region

Table 14

Water Demand by County in Acre Feet (000)
Metropolitan Water District Service Area

	Agricultural Use			Urban Use		
County	1980	1990	1997	1980	1990	1997
Los Angeles	7.2	3.9	3.5	1485.1	1784.2	1689.8
Orange	41.9	35.2	22.8	463.6	653.0	653.3
Riverside	199.4	208.5	175.9	136.8	235.9	294.5
San Bernardino	56.7	33.5	31.9	120.4	184.2	168.6
Ventura	17.8	25.6	12.4	77.4	115.1	114.0
Total	323.0	306.7	246.5	2283.3	2972.4	2920.2

Source: Metropolitan Water District
Note: One acre foot equals 326,000 gallons

except Imperial.) In 1997, urban use accounted for 92 percent of the MWD's retail demand, while agriculture accounted for 8 percent of the demand. Between 1980 and 1997, there was a 24 percent decrease in the demand for agricultural use in the SCAG area served by the MWD, while the demand for urban use increased by 30 percent during the same period.

Open Space and Conservation

Recreation and open space area in the region is vast and diverse, ranging from beaches and state parks to city, county, and private recreation areas, to state and federal multiple-use and preservation lands, the national forests and deserts. National forests account for approximately 2.3 million acres of land in the region. The forests are managed by the United States Forest Service for resource preservation and outdoor recreation uses. The four national forests are Angeles, San Bernardino, Los Padres, and Cleveland. The Bureau of Land Management controls approximately 10 million acres of land in the region. Portion of the recreation and open space areas in the region are also managed and maintained by the National Park Service, the California Department of Parks and Recreation, and county and city governments.

Much of Southern California's open space and biological diversity have been lost during the past several decades. Future development as a result of the projected population

growth will place additional demands on the remaining resources. (Please see map 16 for areas where sensitive habitats have been identified and are subject to development. The brown dots identify areas of endangered species in which there is potential for conflict.)

Other Environmental Conditions

Portions of the SCAG region are subject to sudden and severe floods, with some flood damage occurring almost every year. (Please see map 17 for flood hazard zones which are subject to 100-year flooding.)

Strong ground shaking during earthquakes can generate landslides and slumps in uplands or coastal regions in the vicinity of the fault in which the earthquake is occurring. (Please see map 18 for the location of the major fault lines as well as the areas of moderate and severe acceleration as a result of active faults.)

Soil survey information is used in soil geographic data bases which serve as sources for making land use assessments and determining land use potentials and limitations. (Please see map 19 for classification of soil.)